What is claimed is:

	1. An optical semiconductor device comprising:
2	an optical semiconductor element formed on a
3	semiconductor substrate;
4	a semiconductor region opposing said optical
5	semiconductor element and essentially surrounding said
6	optical semiconductor element to form walls; and
7	a buried layer arranged between the walls of
8	said semiconductor region and said optical semiconductor
9	element and formed by vapor phase epitaxy,
10	wherein a distance between the wall of said
11	semiconductor region and a side wall of said optical
12	semiconductor element is larger in a portion in which a
13	growth rate of the vapor phase epitaxy in a horizontal
14	direction from the side wall of said optical
15	semiconductor element and the wall of said semiconductor
16	region is higher.

2. A device according to claim 1, wherein
2 said optical semiconductor element has a
3 stacked structure of Group III-V compound semiconductor
4 layers made from In, Ga, Al, P, and As, and
5 said buried layer is made from semi-insulating
6 InP.





- 3. A device according to claim 1, wherein said
- 2 buried layer has a multilayered structure.
 - A device according to claim 1, wherein
- 2 said device further comprises an electrode
- 3 connected to said optical semiconductor element,
- 4 said electrode is formed on said semiconductor
- 5 region via an insulating layer, and
- 6 trenches are formed in a portion of said
- semiconductor region below said electrode and buried 7
- 8 with said buried layer.
 - A device according to claim 4, wherein said 5.
- trenches are wider in a portion in which the growth rate
- in the horizontal direction from side walls of said
- trenches is higher.
 - A device according to claim 4, wherein 6.
- said optical semiconductor element has a 2
- 3 stacked structure of Group III-V compound semiconductor
- layers made from In, Ga, Al, P, and As, and 4
- 5 said buried layer is made from semi-insulating
- 6 InP.
 - 7. A device according to claim 4, wherein said
- buried layer has a multilayered structure. 2

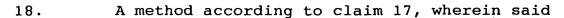
- 8. An optical semiconductor device comprising:
- a plurality of optical semiconductor elements
- 3 formed on a semiconductor substrate;
- a dummy portion formed in a center of a square
- 5 at four corners of which said optical semiconductor
- 6 elements are arranged; and
- 7 a buried layer formed by vapor phase epitaxy
- 8 so as to bury a portion between said optical
- 9 semiconductor elements and said dummy portion.
 - 9. A device according to claim 8, wherein
- 2 said optical semidonductor element has a
- 3 stacked structure of Group I/I-V compound semiconductor
- 4 layers made from In, Ga, Al, P, and As, and
- 5 said buried layer is made from semi-insulating
- 6 InP.
 - 10. A device according to claim 8, wherein said
- 2 buried layer has a multilayered structure.
 - 11. A device according to claim 1, wherein said
- 2 buried layer is made from a semi-insulating
- 3 semiconductor added with a dopant which forms an
- 4 impurity level in a deep level in a band gap.
 - 12. A method of fabricating an optical
- 2 semiconductor device, comprising:



- 3 the first step of forming an optical
- 4 semiconductor element on a semiconductor substrate;
- 5 the second step of forming a semiconductor
- 6 region having walls opposing said optical semiconductor
- 7 element and essentially surrounding said optical
- 8 semiconductor element; and
- 9 the third step of forming a buried layer by
- 10 vapor phase epitaxy between the walls of said
- 11 semiconductor region and said optical semiconductor
- 12 element,
- wherein in the second step a distance between
- 14 the wall of said semiconductor region and a side wall of
- 15 said optical semiconductor element is larger in a
- 16 portion in which a growth rate of the vapor phase
- 17 epitaxy in a horizontal direction from the side wall of
- 18 said optical semiconductor element and the wall of said
- 19 semiconductor region is higher.
 - 13. A method according to claim 12, wherein said
- 2 buried layer is formed by vapor phase epitaxy using one
- 3 of a chloride-based source gas and a hydride-based
- 4 source gas.
 - 14. A method according to claim 12, further
- 2 comprising
- 3 the steps of forming trenches in a
- 4 predetermined region of said semiconductor region before



- 5 the third step, said trenches being buried with said
- 6 buried layer in the third step, and
- 7 the step of forming an electrode to be
- 8 connected to said optical semiconductor element on said
- 9 trenches via an insulating film.
 - 15. A method according to claim 14, wherein said
- 2 trenches are wider in a portion in which a growth rate
- 3 in a horizontal direction from side walls of said
- 4 trenches is higher.
 - 16. A method according to claim 12, wherein said
- 2 buried layer is formed by vapor phase epitaxy using one
- 3 of a chloride-based source gas and a hydride-based
- 4 source gas.
 - 17. A method of fabricating an optical
- 2 semiconductor device, comprising the steps of:
- 3 forming a plurality of optical semiconductor
- 4 elements on a semiconductor substrate;
- forming a dummy portion in a center of a
- 6 square at four corners of which said optical
- 7 semiconductor elements are arranged; and
- 8 forming a buried layer by vapor phase epitaxy
- 9 so as to bury a portion between said optical
- 10 semiconductor elements and said dummy portion.



- 2 buried layer is formed by vapor phase epitaxy using one
- 3 of a chloride-based source gas and a hydride-based
- 4 source gas.